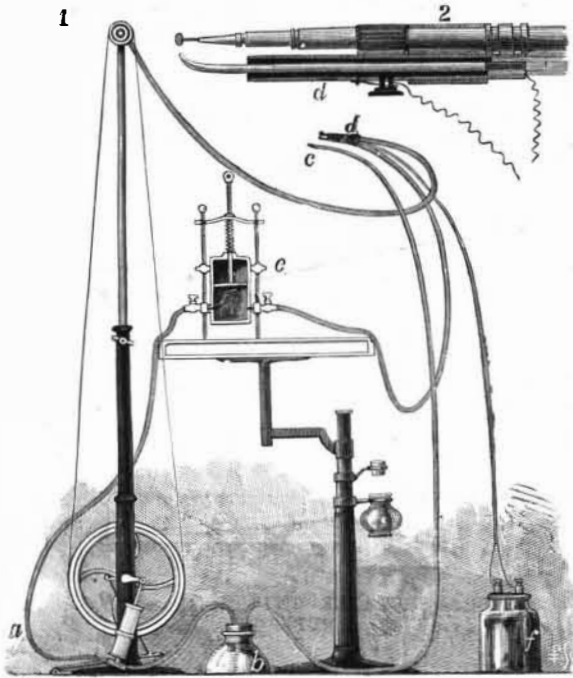


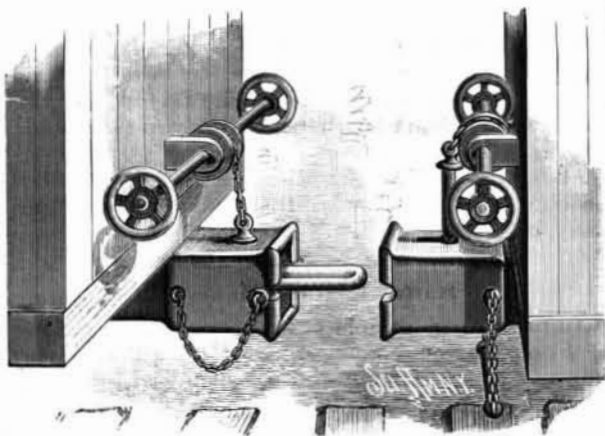
**DENTAL APPARATUS.**

The apparatus herewith illustrated is designed to remove the saliva from the mouths of patients during dental operations with a dental engine. To the main shaft of a dental engine, *a*, of the ordinary construction is connected the piston of an exhaust pump, to which is attached a rubber tube connecting with a bottle, *b*, forming a saliva receptacle. When the air is exhausted from the receptacle, the vacuum created causes the saliva to pass from the patient's mouth through the



PARSON'S DENTAL APPARATUS.

tube, *c*, to the bottle. Leading from the air discharge outlet of the pump is a tube connecting with a close air receptacle, *e*, into which the air from the pump is delivered, and in which it is held under compression and allowed to pass at the will of the operator to and through a flexible tube united with the arm, *d*, of the dental engine, thereby conveying air to the tooth being operated upon. In order to heat the air before it leaves the tube, the latter is provided at its outer end with a mouthpiece, shown enlarged in Fig. 2, composed in



NEWTON'S IMPROVED CAR COUPLING.

part of a small metal tube, around which there may be a coil of wire arranged, so that when a current of electricity from the battery, *f*, is passed over the tube, it becomes warm or hot as desired, and heats the air passing through the tube. Around the metal tube is placed a suitable non-conducting material. This electric air-heating mouthpiece need only be about the thickness of a pencil and about two inches long. The temperature may be varied by changing the number of cells or by changing the material of the tube. The heated air discharged from the tube may not only be



STOCK OR HAY FRAME.

used on the tooth to ease pain, but may also be used to blow away chips or dust, or to dry the cavity or for atomizing purposes. The receiver, *e*, consists of a cylinder fitted with a piston, which is forced down by a spring. Air entering the receiver from the pump forces the piston up against the tension of the spring, thus retaining in the vessel a supply of compressed air for future use. The piston rod is graduated, so that the amount of pressure may be readily determined.

This invention has been patented by Mr. Horace W. Parsons, of Wamego, Kansas.

**IMPROVED CAR COUPLING.**

The drawhead is formed with a link opening, at the bottom and rear end of which is a transverse offset, which constitutes a support or seat for one end of the link when in position for coupling. To each side of the drawhead is attached a chain supporting a transverse bar, and recesses are cut in the front edges of the drawhead, the top edges of the recesses being in alignment with the top of the support or seat. When the link is in position to couple, the swinging bar is placed in the recesses across the link opening, and the link is thereupon seated, at the inner end upon the offset and near its outer end upon the transverse bar. The link is thus held in a horizontal position above the lower surface of the link opening, and is free to enter the opposite drawhead. Journalled across the end of the car is a shaft having a hand wheel at each end and at the center a drum, to which is secured a chain, attached also to the coupling pin. The chain is of such length that one turn of the hand wheels effects a complete disengagement of the pin from the link. In operation the link is held horizontally in the drawhead of one coupler. In the opposing coupler the swinging seat bar is allowed to hang beneath the drawhead, the pin being held above the link opening. As the drawheads come together and the link enters the empty drawhead, the pin thereof is dropped through the link, and as the drawheads are drawn apart the seat bar, utilized to support the link in one drawhead, automatically drops out of the recesses and swings beneath its drawhead. When the coupler is used with an opposing coupler of greater height, an upward inclination is given to the link by removing its inner end from the offset and allowing it to rest upon the floor of the link; opening, the outer end resting, as usual, upon the seat bar.

This invention has been patented by Mr. Joseph Winsor Newton, of Cranston, R. I.

**STOCK OR HAY FRAME.**

This improved frame or wagon box, which can be used for stock or for hay, facilitates the loading of animals into the wagon for transportation. The floor of the wagon box is secured on cross pieces, to the ends of which are held short uprights, hinged to the upper ends of which are other uprights carrying longitudinal rails. The side pieces thus formed are arranged to swing outward. The hinges are each formed of two sections, each having a centrally apertured disk, having radial ratchet teeth on the sides facing each other. Before swinging either side piece outward, it must be moved in the direction of its length to disengage the teeth of the disk; and when it has the desired inclination, the teeth of the disks are engaged again, and are held together by coiled springs around the pintles connecting the sections. The side pieces are braced by rods as shown, and on them are placed other side pieces, thus forming a rack adapted to hold a large quantity of hay even during windy weather. The end boards of the box are provided with uprights, to which cross slats are fastened.

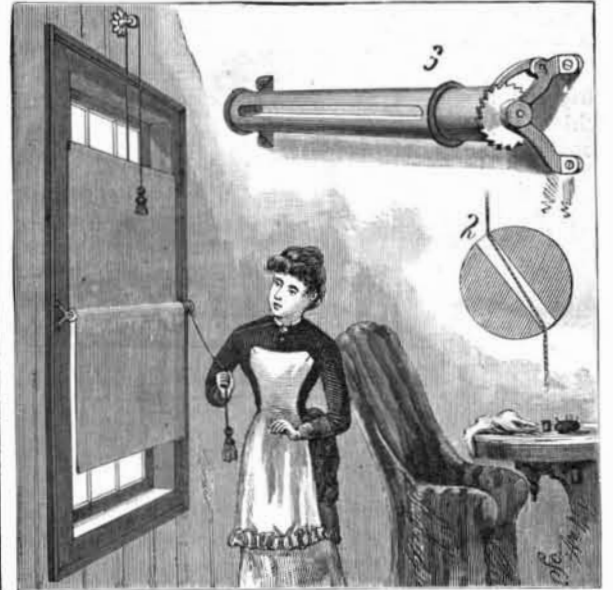
To load stock into the box, one end board is removed and a gang plank is placed in an inclined position, resting on the box and on the ground. The upper sides of the rack are then removed, and placed on the gang plank, to form sides. The animal is then driven on the plank, and gates, running upon rollers along the sides, are closed; then, by means of a suitably arranged rope leading from the gates to a crank shaft, the gates are pulled upward along the plank, forcing the animal upward and into the box. The stock loader can be adapted for use on railroads or in private stock yard chutes.

For all further particulars concerning this invention, the Carrington Stock Rack and Hay Frame Co., of Clay Center, Kansas, should be addressed.

FOR a good receipt for making antique brass, dissolve 1 ounce sal ammoniac, 3 ounces cream of tartar, and 6 ounces common salt in 1 pint hot water; then add 2 ounces nitrate of copper, dissolved in a half pint of water; mix well, and apply it repeatedly to the article by means of a brush.

**IMPROVED CURTAIN FIXTURE.**

This curtain fixture is designed to afford facilities for shading either the upper or lower half of a window, or the whole of it, at will. The roller (Fig. 3) is provided with a longitudinal slot through which the curtain passes, as shown in Fig. 2. In the other figure the curtain is shown as applied to the window. By pulling down the upper cord, the curtain will be entirely unwound and the whole window covered. Then it can be drawn up through the slot until the upper half only of the window is covered. Again, by dropping it the whole window will be covered a second time. By partially rolling it, the center of the window will be screened. If the shade is pulled well down, and then rolled up by the lower cord, the lower half of the window will be covered. By a similar manipulation, the screening can be confined to the upper half. The tassels at the ends of the cords are weighted, whereby



BELL'S IMPROVED CURTAIN FIXTURE.

the shade may be raised or lowered as desired. For instance, when the tassel held by the operator is lifted, the weight on the other cord lifts the shade by its own gravity. Thus any portion can be screened, and a very perfect fixture is presented for use in all houses.

This invention has been patented by Mr. Charles Bell, of Old Tacoma, Wash. Ter.

**IMPROVED SASH FASTENER.**

The invention here illustrated has been recently patented by Mr. William R. Abrams, of Ellensburg, W. T., the object being to provide a simple and efficient portable window fastener that can be applied to any window, and which will prevent either sash from being moved and from rattling. The plate forming the body of the fastener is wedge-shaped at one end and pro-



ABRAMS' IMPROVED SASH FASTENER.

vided with a hinged piece at the opposite end. Near the hinge is secured a plate, which is bent twice at right angles and formed with pointed ends inclined in opposite directions. Also secured to the plate, but projecting in the opposite direction, is an arm. The hinged piece has a slot, and one of its surfaces is roughened for engagement with the roughened surface of a bar provided with a screw-threaded stud, which passes through the slot and receives a wing nut, by which the bar is clamped to the end piece. One end of the bar is bent at right angles to form an arm, which is beveled on opposite edges to form sharp angles for engaging the sash and window stop. The opposite end of the bar constitutes a handle, and to it is attached a chain. The fastener is applied to a window by inserting the wedge-shaped end of the main plate between the lower sash and window casing, the hinge piece being folded back on the plate, and then pressing the pointed ends